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Technical Letter
No. 1110-3-477

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Engineering and Design
ALTERNATIVE SLUDGE DEWATERING TECHNIQUES FOR WASTEWATER TREATMENT FACILITIES

1. Purpose. This letter provides basic criteria and information pertaining to the design and construction of alternative sludge dewatering facilities at U.S. Army and Air Force wastewater treatment plants.

2. Applicability. This letter applies to all HQUSACE elements, major subordinate commands (MSC), districts, laboratories and field operating activities (FOA) having Army and Air Force military construction and design responsibility.

3. Objective. The handling and disposal of sludge generated at Army and Air Force installations must be consistent with national, state, and local regulations. Dewatering of sludge to reduce the volumes requiring ultimate disposal is a significant part of the overall sludge treatment and disposal process. Because of their relative simplicity and economy of operation, many Army installations use conventional sand drying beds for dewatering sludge before final disposal to a landfill. The shortcomings of drying beds include relatively long drying times (three to four weeks), a requirement for manual sludge removal, and a need for large, dedicated land areas. Moreover, there are operational problems associated with media and underdrain clogging, and outdoor drying beds are vulnerable to adverse weather conditions. Over the years, many improvements in sludge processing techniques have been developed. Among the promising technologies being used successfully at small-scale wastewater treatment plants are wedgewater beds, vacuum assisted drying beds, reed bed systems, and sludge freezing techniques. The purpose of this ETL is to introduce the characteristics of these low-energy intensive dewatering techniques, so they may be considered for use at Army and Air Force wastewater treatment plants.

4. Action to be Taken. The guidance included in Appendix A to this technical letter will be used for planning, design and construction of alternative sludge dewatering facilities at wastewater treatment plants.

5. Implementation. This technical letter will have immediate application, as defined in paragraph 6c, ER 1110-345-100.

FOR THE DIRECTOR OF MILITARY PROGRAMS:

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1 Appendix
APP A - Alternative Sludge Dewatering Techniques at Wastewater Treatment Facilities